

FIG 1

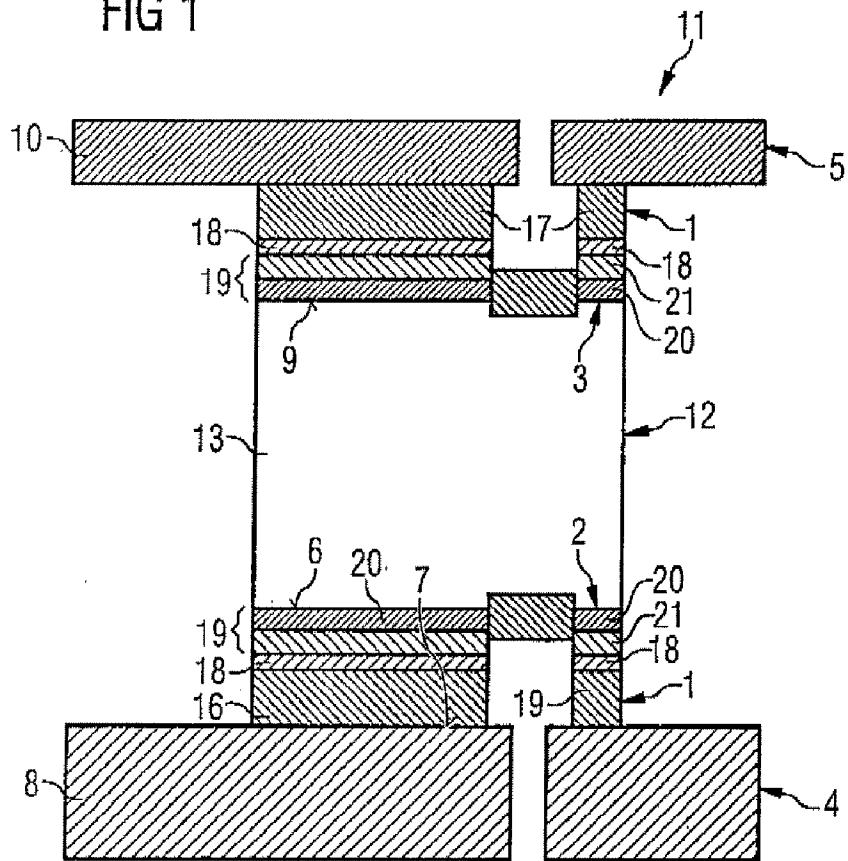


FIG 2

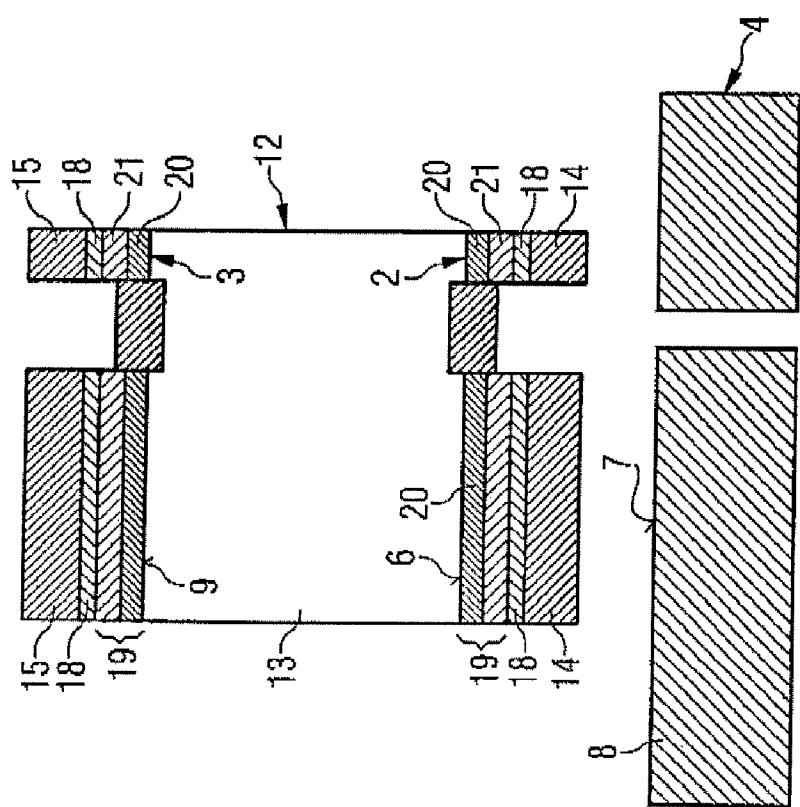
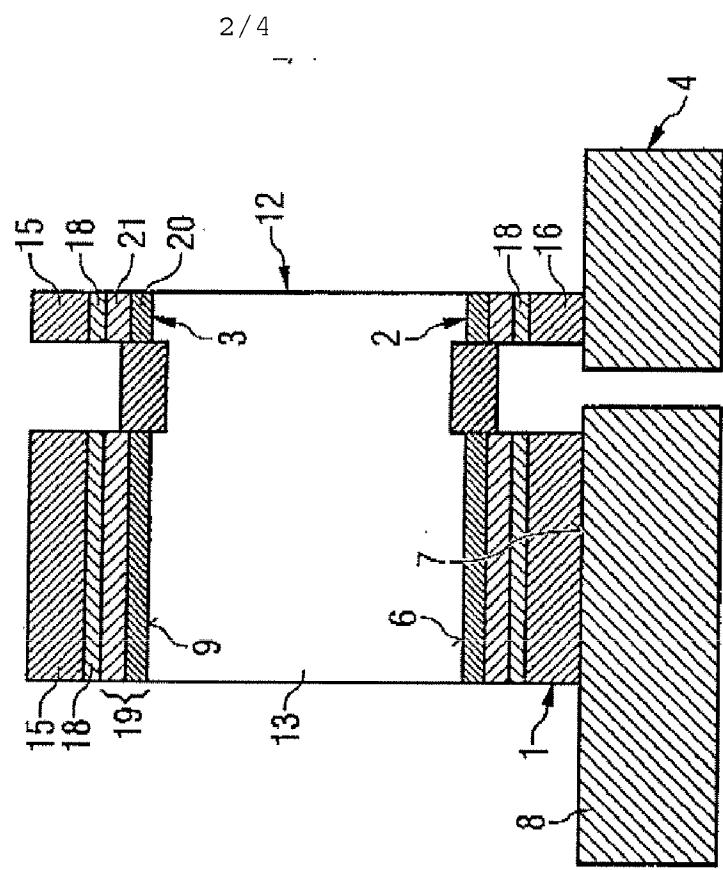
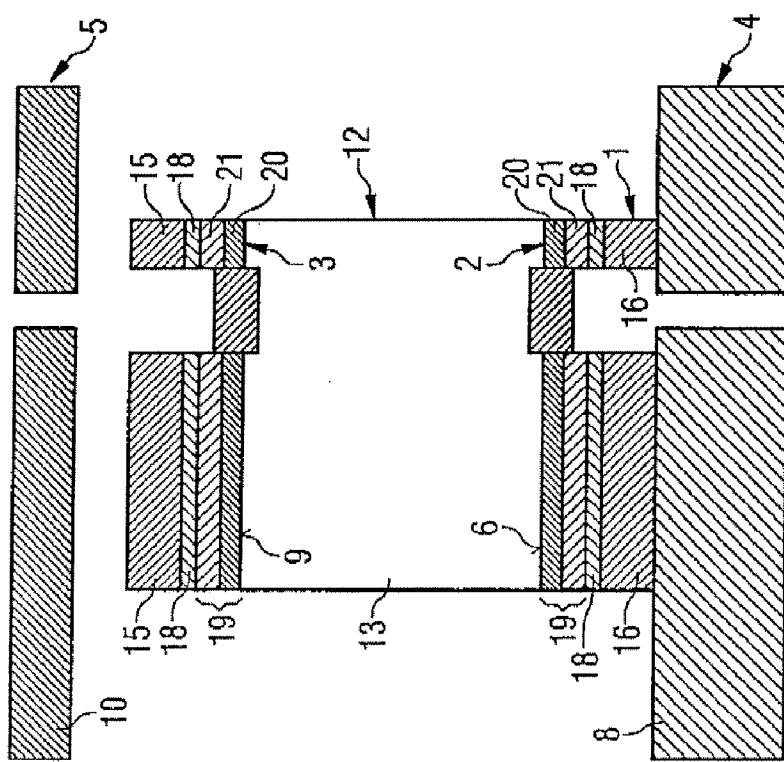


FIG 3



4
FIG



5
FIG

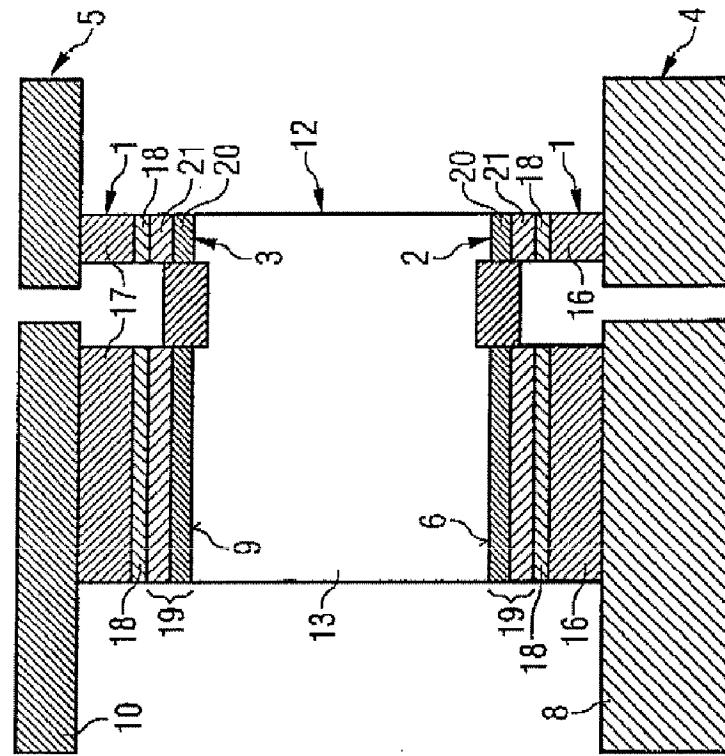


Table 1

Alloy for joining (A or B)	Reaction partners and buffer (X)	T _{melt} , before	T _{melt} , after	Intermetallic phases
Ga-yNi ($1 < y < 20\text{wt\%}$)	Ag, Cu, Ni	30,2°C ()	362°C; 895°C	Ga ₄ Ni; Ni ₂ Ga ₃
Ga-xCu ($1 < x < 40\text{wt\%}$)	Ag, Cu, Ni	28,6°C ()	254°C; 485°C	Ga ₂ Cu; Ga ₂ Cu ₃
Ga-yAg ($1 < y < 40\text{wt\%}$)	Ag, Cu, Ni	26°C ()	425°C; 611°C	Ag ₂ Ga; Ag ₅ Ga
In-xAg ($1 < x < 30\text{wt\%}$)	Ag, Cu, Ni	144°C	660°C; 695°C	Ag ₃ In
Sn-yAg; ($1 < y < 50\text{wt\%}$)	Ag oder Cu	221°C	480°C; 724°C	Ag ₃ Sn; Ag ₅ Sn
Au-xSn ($10 < x < 30\text{wt\%}$; $15 < x < 42\text{at\%}$) (des: $5 < x < 38\text{wt\%}$; $8 < x < 50\text{at\%}$)	Ag oder Cu	280°C	480°C; 724°C 415°C; 640°C	Ag ₃ Sn; Ag ₅ Sn Cu ₆ Sn ₅ ; Cu ₃ Sn
Au-yGe ($7 < y < 20\text{wt\%}$; $20 < y < 40\text{at\%}$) (des: $4 < y < 50\text{wt\%}$; $10 < y < 75\text{at\%}$)	Cu	361°C	614°C; 743°C	Cu ₃ Ge; Cu ₅ Ge